Amendments to the Claims

Claims 1, 6, and 38 have been amended without any intention of disclaiming equivalents thereof. The following listing of claims replaces all prior versions and lists of claims in the application.

Listing of Claims:

1. (Currently Amended) A method for preparing a nerve graft suitable for subsequent implantation, the method comprising:

degrading, by *in vitro* culturing, chondroitin sulfate proteoglycan of a nerve graft comprising a nerve tissue segment ~~and having~~ while maintaining an intact basal lamina tube structure of the nerve graft ~~by *in vitro* culturing~~, thereby enhancing post-implantation axonal traversal of an interface between the nerve graft and host nerve tissue relative to ~~an untreated~~ a nerve graft in which chondroitin sulfate proteoglycan was not degraded; and

rendering the nerve graft acellular by killing cells in the nerve graft.

2-5. (Cancelled)

6. (Currently Amended) The method according to claim 1, wherein said culturing of the nerve graft *in vitro* is for a period of time that achieves an increase in post-implantation axon ingress and extent of growth within the nerve graft relative to the ~~untreated~~ nerve graft in which chondroitin sulfate proteoglycan was not degraded.

7. (Previously Presented) The method according to claim 1, wherein said culturing of the nerve graft *in vitro* is for a period of time within the range of about 24 hours to about 96 hours.

8. (Previously Presented) The method according to claim 1, wherein said culturing of the nerve graft *in vitro* is for a period of time within the range of about 24 hours to about 72 hours.

9. (Previously Presented) The method according to claim 1, wherein said culturing of the nerve graft *in vitro* is for a period of time of about 48 hours.

10. Previously Presented) The method according to claim 1, wherein said culturing of the nerve graft *in vitro* is conducted at a temperature within the range of about 10° C to about 37° C.

11. (Previously Presented) The method according to claim 1, wherein said culturing of the nerve graft *in vitro* is conducted at a temperature within the range of about 30° C to about 37° C.

12. (Previously Presented) The method according to claim 1, wherein said culturing of the nerve graft *in vitro* is conducted at a temperature of about 37° C.

13. (Previously Presented) The method according to claim 1, wherein the nerve graft is an explant.

14. (Previously Presented) The method according to claim 1, wherein the nerve graft is mammalian tissue.

15. (Previously Presented) The method according to claim 1, wherein the nerve graft is mammalian tissue selected from the group consisting of human tissue, non-human primate tissue, porcine tissue, rodent tissue, and bovine tissue.

16. (Previously Presented) The method according to claim 1, wherein the nerve graft is human tissue.

17. (Original) The method according to claim 1, wherein the nerve graft is an autograft.

18. (Original) The method according to claim 1, wherein the nerve graft is an allograft.

19. (Original) The method according to claim 1, wherein the nerve graft is a xenograft.

20. (Previously Presented) The method according to claim 1, wherein rendering the nerve graft acellular by killing cells in the nerve graft occurs after culturing.

21. (Previously Presented) The method according to claim 1, wherein rendering the nerve graft acellular by killing cells in the nerve graft comprises a process selected from the group consisting of freeze-killing and chemical treatment.

22. (Previously Presented) The method according to claim 1, wherein said method further comprises freezing the nerve graft for storage.

23. (Original) The method according to claim 22, wherein said freezing is carried out after said culturing *in vitro*.

24-29. (Cancelled)

30. (Previously Presented) The method according to claim 1, wherein the nerve graft comprises peripheral nerve tissue.

31. (Previously Presented) The method according to claim 1, wherein said culturing comprises placing the nerve graft in contact with culture medium.

32. (Original) The method according to claim 31, wherein the culture medium comprises a defined medium.

33. (Original) The method according to claim 31, wherein the culture medium comprises a defined medium supplemented with serum.

34. (Original) The method according to claim 31, wherein the culture medium comprises undefined medium.

35. (Original) The method according to claim 31, wherein the culture medium comprises dulbecco's modified eagles' medium.

36. (Previously Presented) The method according to claim 1, wherein said method further comprises isolating the nerve graft from a mammal prior to said culturing of the nerve graft *in vitro*.

37. (Previously Presented) The method according to claim 1, wherein said method further comprises applying a tissue adhesive to the nerve graft .

38. (Currently Amended) A method for enhancing the regenerative potential of a nerve graft suitable for subsequent implantation, the method comprising:

degrading, by *in vitro* culturing, chondroitin sulfate proteoglycan of a nerve graft comprising a nerve tissue segment ~~and having~~ while maintaining an intact basal lamina tube structure of the nerve graft ~~by *in vitro* culturing~~, thereby enhancing post-implantation axonal traversal of an interface between the nerve graft and host nerve tissue relative to an ~~untreated~~ a nerve graft in which chondroitin sulfate proteoglycan was not degraded, wherein

culturing conditions comprise a temperature within the range of about 10° C to about 37° C for a period of time within the range of about 24 hours to about 96 hours; and

rendering the nerve graft acellular by killing cells in the nerve graft .

39. (Previously Presented) The method according to claim 38, wherein said culturing of the nerve graft *in vitro* is for a period of time within the range of about 24 hours to about 72 hours.

40. (Previously Presented) The method according to claim 38, wherein said culturing of the nerve graft *in vitro* is for a period of time of about 48 hours.

41. (Cancelled)

42. (Previously Presented) The method according to claim 38, wherein said culturing of the nerve graft *in vitro* is conducted at a temperature within the range of about 30° C to about 37° C.

43. (Previously Presented) The method according to claim 38, wherein said culturing of the nerve graft *in vitro* is conducted at a temperature of about 37° C.

44. (Previously Presented) The method according to claim 38, wherein said culturing comprises placing the nerve graft in contact with culture medium.

45. (Original) The method according to claim 44, wherein the culture medium comprises defined medium.

46. (Original) The method according to claim 44, wherein the culture medium comprises defined medium supplemented with serum.

47. (Original) The method according to claim 44, wherein the culture medium comprises undefined medium.

48. (Previously Presented) The method according to claim 38, wherein rendering the nerve graft acellular by killing cells in the nerve graft occurs after culturing.

49. (Previously Presented) The method according to claim 38, wherein rendering the nerve graft acellular by killing cells in the nerve graft comprises a process selected from the group consisting of freeze-killing and chemical treatment.

50. (Previously Presented) The method according to claim 38, wherein the nerve graft is mammalian tissue.

51. (Previously Presented) The method according to claim 38, wherein the nerve graft is mammalian tissue selected from the group consisting of human tissue, non-human primate tissue, porcine tissue, rodent tissue, and bovine tissue.

52. (Previously Presented) The method according to claim 38, wherein the nerve graft is human tissue.

53. (Previously Presented) The method according to claim 38, wherein the nerve graft comprises peripheral nerve tissue.

54. (Original) The method according to claim 38, wherein the nerve graft is an autograft.

55. (Original) The method according to claim 38, wherein the nerve graft is an allograft.

56. (Original) The method according to claim 38, wherein the nerve graft is a xenograft.

57.-116. (Cancelled)

117. (Previously Presented) The method according to claim 1, wherein the nerve graft comprises central nervous system tissue.

118. (Previously Presented) The method according to claim 38, wherein the nerve graft comprises central nervous system tissue.

119. (Previously Presented) The method according to claim 38, wherein the nerve graft is an explant.

120. (Previously Presented) The method according to claim 38, wherein said method further comprises freezing the nerve graft for storage.

121. (Previously Presented) The method according to claim 120, wherein said freezing is carried out after said culturing *in vitro*.

122. (Previously Presented) The method according to claim 38, wherein said method further comprises isolating the nerve graft from a mammal prior to said culturing of the nerve graft *in vitro*.

123. (Previously Presented) The method according to claim 38, wherein said method further comprises applying a tissue adhesive to the nerve graft.